



Walter E. Schutz

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how to  
attract,  
house & feed

# birds

Revised Edition of Bird Watching, Housing and Feeding

The Bruce Publishing Company, New York

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Ann Arbor, Michigan

AUG 7 1974

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The first edition of this book was published under the title: How to Build Birdhouses and Feeders. The second edition was titled Bird Watching, Housing and Feeding, by the Bruce Publishing Company, Milwaukee.

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Library of Congress Catalog Card Number: 74-115299

THE BRUCE PUBLISHING COMPANY, NEW YORK

COLLIER-MACMILLAN CANADA, LTD., TORONTO, ONTARIO

Made in the United States of America

# acknowledgments

I wish to take this opportunity to extend my continued thanks to all the people whose valuable guidance has been so helpful to me in the preparation of my books: Owen J. Gromme, John L. Diedrich, and Murl Deusing of the Milwaukee Public Museum; Dixie Larkin of the Wisconsin Audubon Camp; Frank Bellrose of the National History Survey Division at Urbana, Illinois, and the Plankinton Packing Company; Mr. and Mrs. Ralph Morse of the Ned Hollister Bird Club, who supplied information on field trips and bird photography; and Mr. and Mrs. David Cox also of the Ned Hollister Bird Club, who provided information on bird banding.

My thanks again go to Andrew Bihun, Jr. of **The Audubon Magazine**, who offered many helpful suggestions in addition to permission to use material from the magazine, and to Robert J. Woodward, who graciously offered the use of several pictures. Special thanks go to my wife, whose valuable suggestions have resulted in more practical feeder designs and to my son, Tom, who contributed forty-two bird identification illustrations that greatly enhance the book. Very grateful acknowledgment is also due to those at The Bruce Publishing Company, especially Constance Bergman, a very fine and most able editor, and to editorial assistants Sondra Roth and David Socholtzky.

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# foreword

As in the two previous editions, **How to Build Birdhouses and Feeders** and **Bird Watching, Housing and Feeding**, this completely new and revised edition emphasizes how to attract, feed, and house birds.

Reorganized into six easy-to-find units, **How to Attract, House & Feed Birds** contains updated suggestions on how to lure and keep birds in your area by providing the proper food and housing. Clear, easy-to-follow instructions for constructing well-designed feeders and shelters are provided. These plans are detailed enough for the novice, yet they challenge the experienced craftsman.

As every birder and bird watcher knows, birds are not only beautiful to look at, they provide a vital link in helping to keep the balance of nature. This interrelationship of bird and man, with each other, and with their common environment, is explored in a discussion of ecology in Chapter One. Birds are helpful to man in many ways—meadowlarks and many other birds contribute to plant growth by dropping seeds; sea gulls help keep rivers, harbors, and beaches clean; sparrow hawks and owls catch rodents; and so forth. Yet man's disregard for maintaining conditions that support bird life has resulted in endangering some species of birds.

To help us better understand these wild creatures, bird-migration maps and new tabular material showing how birds are helpful to man are included. For the reader who wants to continue the fascinating study of birds, a valuable reference guide is provided at the end of the book.

Let me close by saying that I hope you, the reader, derive as much illumination, enjoyment, and creative satisfaction from reading this book as I did in writing it.

Walter E. Schutz

# ecology today

One of the characteristics of man is his continuing drive to progress. Perhaps his ability to use tools is one reason for this. Through constantly improved tools and technology he has progressed from the cold, inhospitable cave to the push-button home; from smoke signals as a means of communication to satellites; from walking to flying—even to the moon. His accomplishments for his well-being are almost beyond belief.

But everything is not ideal. The industrial colossus, or giant, which man's ingenuity and productivity have developed, and which has brought so many benefits to mankind, has a shadow, too. And the shadow is black—very black in-



deed. It covers the fields, the streams, the cities, the forests, the air, even the highest mountains. It is everywhere. No square foot of the earth escapes—no animal, plant, or creature of any type escapes it. The shameful shadow is pollution.

## no escape

Almost every newspaper or magazine contains an article on pollution. On radio and TV we are told and shown to what extent this plague is affecting us. The one hope is that steps are now being taken to bring some light into this dismal and threatening area. We will never be able to eliminate the shadow entirely, for we cannot undo the past, but we can influence the future through effective education, regulation, and personal involvement.

The pollution of our streams and rivers is known to all of us. Water, so essential to life, is becoming a carrier of death! Almost every stream, lake and river is polluted, and the outlook for the near future is dark. A recent survey made by the Department of Health, Education and Welfare disclosed that the nation's drinking water systems are unsanitary. About 8,000,000 people in the area checked are drinking water from municipal water systems that contain more bacteria than allowed by Federal standards. Seventy-six out of seventy-nine water systems tested showed that they contained harmful pesticides, too. The pollution of our air is even worse than that of the water. Invisible deadly gases hang like a pall of death over our largest concentrations of population. Although many of the deadly gases are invisible, some of the suspended particles block out the healthful rays of the sun. And since air has no limiting barriers, it can float over endless areas, contaminating the highest mountain peaks and the lowest valleys—there seems to be no escape.

## who's to blame?

Most of the accusation is directed toward industry and, rightly so. But, industry alone is not to blame for all of this. Agriculture—common dirt farming—must bear its share of guilt. Rachel Carson's Silent Spring points out how the indiscriminate use of pesticides, if continued, will bring death and famine to our very doors. These harmful products have not only eliminated many of our helpful agents on the face and oceans where they are destroying the water life.

Right along with the damage brought about by agriculture is that caused by lumbering. About one-third of our land is timberland. This resource is still threatened, although for some reason or other conservation efforts have been more successful here than in any other natural field. Many years ago we recognized the need to regulate lumbering and began reforestation programs. Today we are keeping just about even. If we ever cut back our forest conservation programs, we will be faced with a serious lumber shortage, since the use of forest products will increase rapidly and in direct proportion to the increase in population.

## what's the answer?

We all know there is no easy answer to all these problems. We know we cannot eliminate the shadow of negligence in one single action. We can take legislative action, and proper legislation at the right point will help us arrive at some of the answers. But there is no one solution to the thousands of problems. Only when the necessity of finding these solutions is given its proper priority can we really begin.

## why worry?

One element of our natural resources that is affected and in great danger is our wildlife. We all know of the extinction of the passenger pigeon, and the similar fate of the Merriam elk and the heath hen. In all, about thirty species of wild life have been eliminated in the last 150 years, and about ninety other species are in danger of being lost for all time. These species include fish, animals, and many birds.

To the uninterested, the usual reaction is "So what? What do I care if the otter is no longer here? Why should I bother if the passenger pigeon is no longer in the sky, or the number of robins this spring is fewer than last spring? So what if I don't see as many redheaded woodpeckers as I did before? I've other troubles to worry about!" True, we all have many worries, and having fewer birds may seem a trivial matter. But when you get involved and examine the facts, you find that this is not a trivial matter after all. The number of wild birds in the nation has declined in direct proportion to the amount of deadly pollution we have brought down upon ourselves. And, as the number of birds decreases, the chances for our own survival also decreases. It is as simple as this: The survival of our wild birds bears a direct relationship to our own well-being.



# wild birds, one of the answers

It's odd that saving our wild birds is usually regarded as being for the birds' sake alone or because we'd feel bad if there were fewer birds—we'd miss the singing and the brilliant flashes of gay plumage flitting through the trees. Rarely do we hear or read that it is just good sense and good business to save these wild birds. Hardly anyone has ever taken the time or had the initiative to show how we unwittingly depend upon a healthy and numerous bird population in balance with the rest of the natural world. Even Rachel Carson seems to slight this phase of bird conservation.

The companionship of a large number of birds on the feeder is exciting and a great pleasure, but there is much more at stake than this. The value of birds to human beings is beyond general knowledge; it is to everyone's advantage to maintain a healthy and adequate bird population.

## twenty box cars of seeds

Here is what is happening every day of the year, yet hardly anyone is aware either of the fact or its importance.

Some years ago a study was made for the state of Iowa by the Department of Agriculture. The study concerned the amount of obnoxious weed seeds consumed by birds for one year. The common sparrow was studied, and it was found that each bird ate about one fourth of an ounce of seed each day.



Little enough you say—granted. But if we estimate that there are only 10 sparrows in each square mile—an exceedingly low figure—and that the season covers only 200 days of the year, we find that these few birds consumed 1,750,000 pounds of seeds! This is about 875 tons or the equivalent to 20 box-cars of seeds. Multiply this by all the seed eating birds, include the seed diet of birds that eat both seeds and insects, and you have a figure that staggers the imagination!

The results of another study made by the Department of Agriculture are shown in the accompanying table. The table shows the findings based on a total of 13,919 birds

investigated, plus an unspecified number of additional species. In all cases the percentage of animal or vegetable consumed, as well as the kind of seeds and insects, was established.

Study this table carefully and see the enormous number of harmful insects that were eliminated by the birds. Note too, that of the fifty species of birds covered by this study, sixty percent of the bird's diet is animal, that is, insects or small rodents, and forty percent is vegetable, such as seeds, disease scales, and grasses.

## Economic Value of Some of Our Most Common Birds

Source: U. S. Department of Interior Bulletin

Bird Investigated	Animal and Insect	Vegetable
Bluebird ✓	68 Percent Beetles Grasshoppers Caterpillars 15 other noxious bugs	32 Percent Weed seeds such as: Wild blackberry Chokeberry Pokeberry Ragweed Sorrel Virginia creeper Bittersweet Sumac Rose haws, etc.
Robin ✓	42 Percent Ground beetles Grasshoppers Caterpillars Angleworms and other bugs	58 Percent Wild fruits Dogwood Wild cherry Wild grape Greenbrier Holly Elderberry Sumac Many other seeds Crabgrass Cranberries Blueberries
South Carolina Chickadee ✓	83 Percent Grape vine insects Black olive scale	17 Percent Mostly weed seeds

Western Bluebird	82 Percent	18 Percent
	Grasshoppers Beetles Misc. bugs	All noxious weed seeds
Chickadee and Titmouse Family	68 Percent	32 Percent
	Tent caterpillar and eggs Flies and bugs Beetles Plant lice Weevils Spiders	Small weed seeds Wild fruit pulp Poison ivy seeds
House Wren	98 Percent	2 Percent
	All harmful insects Grasshoppers Beetles Caterpillars Bugs and spiders	Bits of grass Few weed seeds
Brown Thrasher	41 Percent	59 Percent
	All harmful insect diet before fruit is ripe	Raspberries Currants Wild fruit and seeds Some oats and corn
Catbird	44 Percent	56 Percent
	Ants, beetles Caterpillars and grasshoppers constitute three-quarters of diet. Balance is bugs, spiders, etc.	One-third is cultivated fruits Strawberry, raspberry and blackberry Balance is wild fruit and some seeds
Brewer Blackbird	32 Percent	68 Percent
	Cutworm and pupae Cotton boll worm Corn ear worm Codling moth	Fruit Grains Weed Seeds 20 percent of vegetable diet is of cultivated crops

Towhee	80 Percent Hibernating beetles and larvae Potato beetle	20 Percent Seeds Small wild fruits
Sparrows	33 Percent Beetles Weevils Leaf Beetles Grasshoppers Wasps and bugs	67 Percent Hard seeds Grass and weed seeds Very little oats
House Finch	2 Percent  Misc. bugs	98 Percent  Weed seeds (62 percent) Wild fruits (27 percent) Grasses (8 percent) Grains (1 percent)
Crow	20 Percent Grasshoppers White grubs Caterpillars Weevils Wireworms Small toads and snakes Some birds' eggs	80 Percent Waste corn and grains in winter Cultivated fruits Wild fruits Misc. seeds
Blue Jay	22 Percent Grasshoppers and eggs Caterpillars Click beetles Wire worms Tent caterpillar Brown-tailed moth Weevils A few wild bird eggs One-third of animal diet is of bene- ficial insects	78 Percent Wild fruit Acorns Beechnuts Hazelnuts Wild fruits Cultivated corn and fruits
Phoebe	89 Percent Noxious insects Click beetles The Phoebe insect diet is exceptionally beneficial.	11 Percent Small wild fruits No cultivated fruits or grain

Bullock Oriole	79 Percent Black olive scale, very large amount Beetles Lady bugs Ants and bees Wasps	21 Percent Fruits, eight percent of which are cultivated
Meadow Larks	74 Percent Beetles Grasshoppers Crickets Cotton boll weevil Grubs	26 Percent Weed and other hard seeds Waste corn and clover seed in winter Ragweed Smartweed Barnyard grasses
Baltimore Oriole	84 Percent Caterpillars Beetles Bugs and ants Grasshoppers Click beetles	16 Percent Wild fruits Some weed seeds
Red Wing Blackbird	26 Percent Beetles Weevils Grasshoppers Dragon flies	74 Percent Weed seeds Ragweed Grass seed Smartweed No fruits Corn, wheat and some oats make up eight percent of vegetable diet
Woodpeckers Redheaded Downy Hairy Flicker	75 Percent Wood boring beetles Wood boring ants Grasshoppers Caterpillars All fruit and fruitwood insects	25 Percent Small wild fruits and berries Weed Seeds Beechnuts

Swallows	100 Percent	
	All airborne flies and ants	
	Amount eaten is beyond calculation.	
Nighthawk	100 Percent	
	Almost every type and kind of insect	
	June bugs	
	Dung beetles	
	Leaf chafers	
	Wood borers	
	Weevils	
	Bugs, moths, flies	
	Grasshoppers	
	Crickets	
	Mosquitoes	
	Colorado potato bugs	
	Cucumber beetles	
	Bark beetles, etc.	
Cuckoo	90 Percent	10 Percent
	Hairy caterpillars	Weed and
	Beetles	grass seeds
	Grasshoppers	No fruits or
	Sawflies	cultivated
	Stinkbugs	grains
	Spiders	
	Tent Caterpillars	
	Crickets	
Bobwhite	40 Percent	60 Percent
	All destructive agricultural pests such as:	All worst weed seeds:
	Colorado potato beetles	Crab grass
	Cucumber beetles	Cockspur
	Bean leaf beetle	Witch grass
	Squash ladybug	Sheep sorrel
	Wireworms	Smart weed
	May beetle	Bind weed
	Corn billbugs	Pigweed
	Weevils	Corn cockle
	Army worms	Chickweed
	Cotton Boll weevil	Ragweed, etc.
	Cutworms	Wild fruits and berries
		Small amount of grain



Bobolink	30 Percent Misc. bugs and insects	70 Percent Mostly weed seeds Wild rice No fruits
Kingbird	90 Percent Almost entirely of noxious insects and pests which makes the Kingbird very beneficial	10 Percent Small native fruits No cultivated fruits or grain
Grackles	25 Percent All injurious insects No birds' eggs as usually believed	75 Percent Waste grain in winter and spring Cherries Blackberries 20 percent of vegetable diet is of cultivated crops

## smothered in bugs!

True, some cultivated crops are also eaten by the birds and we hear about this from farmers and gardeners and I suppose they have a legitimate complaint. However, what would these same people say if they were smothered by the 875 tons of weed seeds, the millions of harmful insects, and disease scales these birds eliminate for them? Then they would have a complaint that would be serious indeed! The air would be so full of bugs and flying insects we could not breathe. The fields and woods would be denuded of every blade of grass and every leaf, and we would have to wade knee-deep in these crawling bugs, gnats, and insects.

Meanwhile, the land available to all wildlife continues to shrink as our population increases. The construction of homes, roads, shopping centers, and superhighways swal-

lows up tremendous amounts of acreage that was formerly in grass and forests. Marshes and wetlands are being drained at a rapid rate. In addition, toxic sprays are reducing the bird population alarmingly.

## more than a hobby

We should think of these things when we lightly dismiss bird watching as just a pleasant hobby. We should think twice and seriously when we hear of birds being imperiled, because it is not only their existence but our own as well that is being threatened.

Viewed from this standpoint, bird watching takes on an entirely new meaning and should be given much more importance. Perhaps we need a more descriptive word for our hobby than "bird watching" because this usually designates only the pleasure we get. Perhaps we might better describe this absorbing activity as "bird husbandry."

There are many ways in which bird watching can help stem the destruction of our bird population. The best place to start is at the local level. National organizations are doing excellent work, but just as much and more can be accomplished in every city, town, and hamlet throughout the nation. To begin with, find out what is happening in your own area. Have you adequate parks? Are areas being set aside as wildlife refuges? Do you have a Boy or Girl Scout troop that is interested in nature studies? Is there a conservation group with which you can work? Does your area have adequate laws to protect wildlife? Are there other people in your vicinity with the same respect for nature that you have? If so, get in touch with them and form a group or club to promote conservation so that your children and grandchildren will have a beautiful and healthful world to grow up in and enjoy. There are many societies that will welcome your support.

